Conditional conv.

$\sum |a_n|$ diverges

$\sum a_n$ converges AST

---

abs convergence

$\sum |a_n|$ converges

so $\sum a_n$ converges

Feb 10-7:30 AM

31.

$$\sum_{n=1}^{\infty} \frac{\cos(n\pi)}{n} = -1 + \frac{1}{2} - \frac{1}{3} + \frac{1}{4} \cdots$$

conv by AST

$$\sum \left| \frac{\cos(n\pi)}{n} \right| = 1 + \frac{1}{2} + \frac{1}{3} \cdots$$

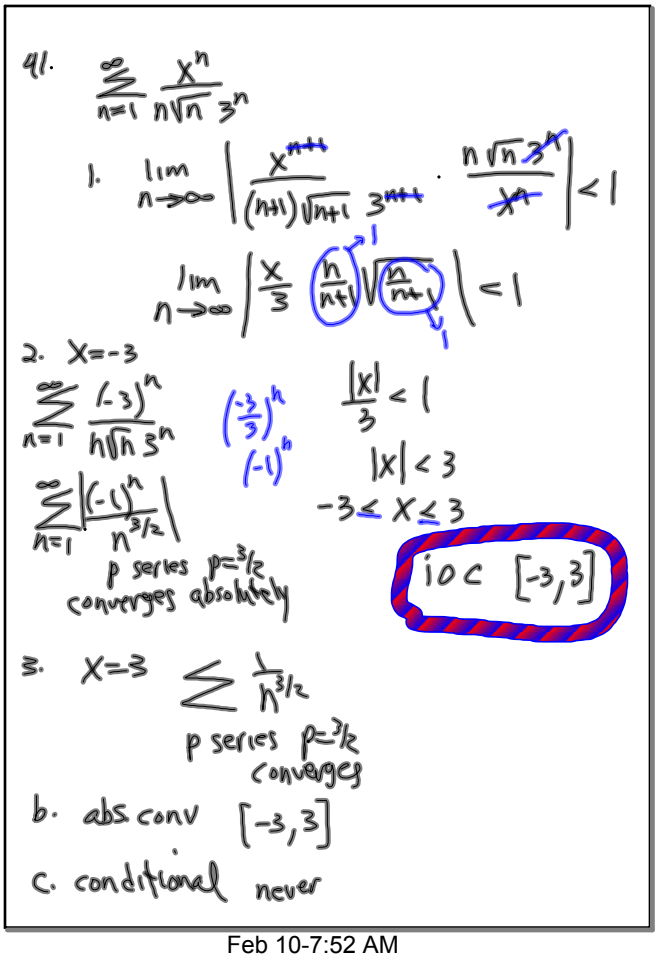
diverges - harmonic

conditional convergence

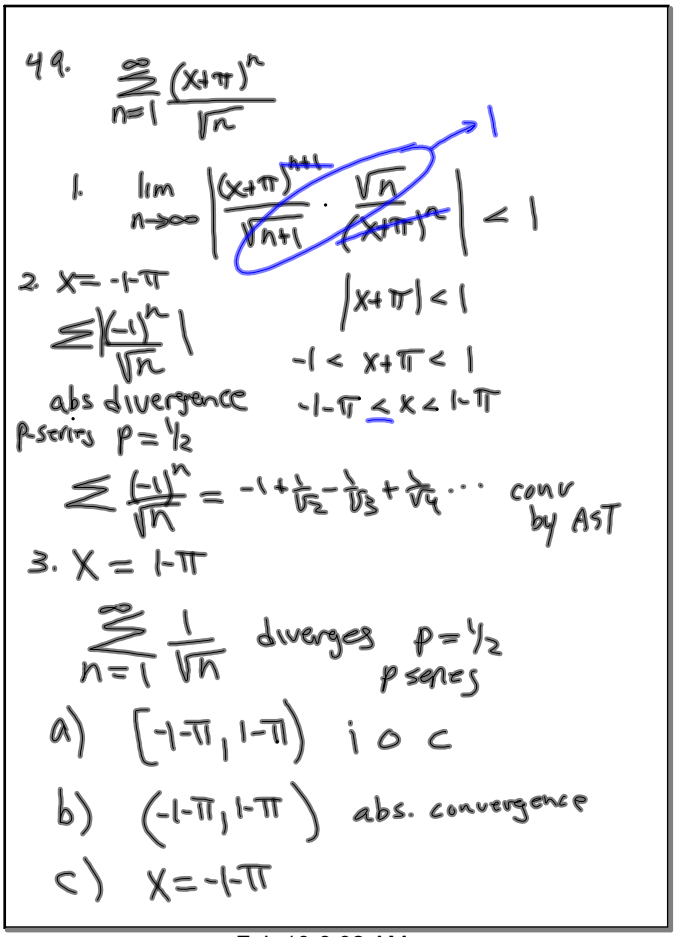
or

converges conditionally

Feb 10-7:48 AM



Feb 10-7:52 AM



Feb 10-8:02 AM

60.

$$\ln(1+x) = x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \frac{x^5}{5}$$

$$\ln\frac{3}{2} \approx 1 - \frac{1}{2^2 \cdot 2} + \frac{1}{2^3 \cdot 3} - \frac{1}{2^4 \cdot 4} + \frac{1}{2^5 \cdot 5}$$

$x = \frac{1}{2}$ overestimate

$\ln\left(\frac{3}{2}\right)$

$$\epsilon < \left|\frac{-x^6}{6}\right|$$

Feb 10-8:12 AM

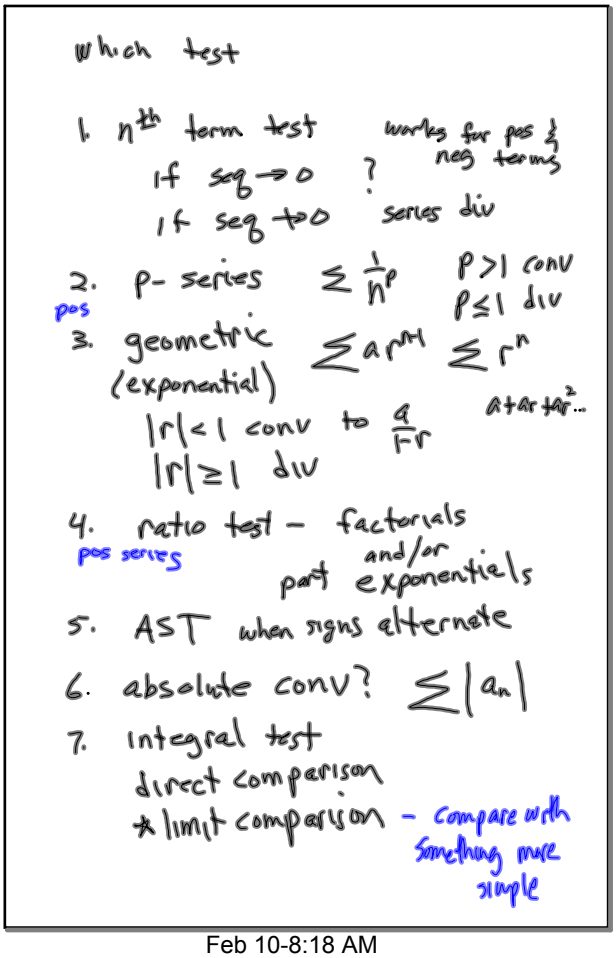
Th. review ch 9 rev syllabus

Fr review

M practice test

Th real test

Feb 10-8:17 AM


which test
1. n^{th} term test
works for pos & neg terms
if seq → 0 ?
if seq ↛ 0 series div
2. p-series $\sum \frac{1}{n^p}$ $p>1$ conv $p\le 1$ div
pos
3. geometric (exponential) $\sum ar^{n-1}$ $\sum r^n$
$a+ar+ar^2\ldots$
$|r|<1$ conv to $\frac{a}{1-r}$
$|r|\ge 1$ div
4. ratio test - factorials and/or exponentials part
pos series
5. AST when signs alternate
6. absolute conv? $\sum |a_n|$
7. integral test
direct comparison
* limit comparison - compare with something more simple

Feb 10-8:18 AM